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MEDIUM-MU TWIN TRIODE

FOR "ON-OFF" CONTROL APPLICATIONS INVOLVING LONG PERIODS OF OPERATION UNDER CUTOFF CONDITIONS

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:		
Voltage	6.3 ± 10%	ac or dc volts
Current	0.45	amp
Microphonism		Not Tested
Direct Interelectrode Capacitances (Approx.):°		
Each Unit:		
Grid to Plate	1.3	μμf
Grid to Cathode and Heater	2.1	μμf
Plate to Cathode and Heater	0.4	μμf
Grid of Unit No.1 to Grid of Unit No.2	0.4 max.	μμf

° With no external shielding.

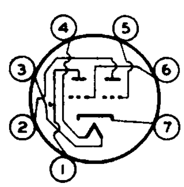
Characteristics, Class A Amplifier (Each Unit, with both units operating):

Plate Voltage	100	volts
Cathode-Bias Resistor●	50	ohms
Amplification Factor	39	
Plate Resistance	6500	ohms
Transconductance	6000	μmhos
Plate Current	9.5	ma

Mechanical:

Mounting Position	Any
Maximum Overall Length	2-1/8"
Maximum Seated Length	1-7/8"
Length, Base Seat to Bulb Top (Excluding tip)	1-1/2" ± 3/32"
Maximum Diameter	3/4"
Bulb	T-5-1/2
Base	Small-Button Miniature 7-Pin
Basing Designation for BOTTOM VIEW	7BF

Pin 1 - Plate of Triode No.2
Pin 2 - Plate of Triode No.1
Pin 3 - Heater
Pin 4 - Heater



Pin 5 - Grid of Triode No.1
Pin 6 - Grid of Triode No.2
Pin 7 - Cathode

FREQUENCY DIVIDER IN COMPUTER SERVICE & "ON-OFF" CONTROL SERVICE

Values are for each unit

Maximum Ratings, ***Absolute Values*****:**

PLATE VOLTAGE	250 max.	volts

● Common to both units.

SEPT. 1, 1950 TENTATIVE DATA

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GRID VOLTAGE:		
Negative bias value	100 max.	volts
Positive bias value	0 max.	volts
Peak negative value	200 max.	volts
PLATE DISSIPATION	1.5 max.	watts
GRID INPUT	0.1 max.	watt
DC CATHODE CURRENT*	15 max.	ma
PEAK CATHODE CURRENT*	75 max.	ma
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	90 max.	volts
Heater positive with respect to cathode	90 max.	volts
BULB TEMPERATURE (At hottest point on bulb surface)	150 max.	^{o}C

Typical Operation as Frequency Halfer (Each Unit):

	Cutoff Condition	*Zero-Bias Condition*	
Plate-Supply Voltage	150	150	volts
Plate-Circuit Resistance	20000	20000	ohms
Grid-Supply Voltage	-10	0	volts
Grid-Circuit Resistance	47000	47000	ohms
Plate Current	0	5	ma

Maximum Circuit Values:

Grid-Circuit Resistance:		
For fixed-bias operation	0.5 max.	megohm
For cathode-bias operation	1.0 max.	megohm

RANGE VALUES FOR EQUIPMENT DESIGN

Cutoff Condition	*Note*	*Min.*	*Max.*	
Plate Current (Each Unit)	1	-	0.2	ma
Difference in Plate Current Between Units	-	-	0.2	ma
Zero-Bias Condition				
Plate Current (Each Unit)	2	4.3	5.7	ma
Difference in Plate Current Between Units	-	-	1.4	ma

Note 1: For conditions with 6.3 volts on heater, plate-supply volts = 150, plate-circuit resistance (ohms) = 20000, grid-supply volts = -10, and grid-circuit resistance (ohms) = 47000.

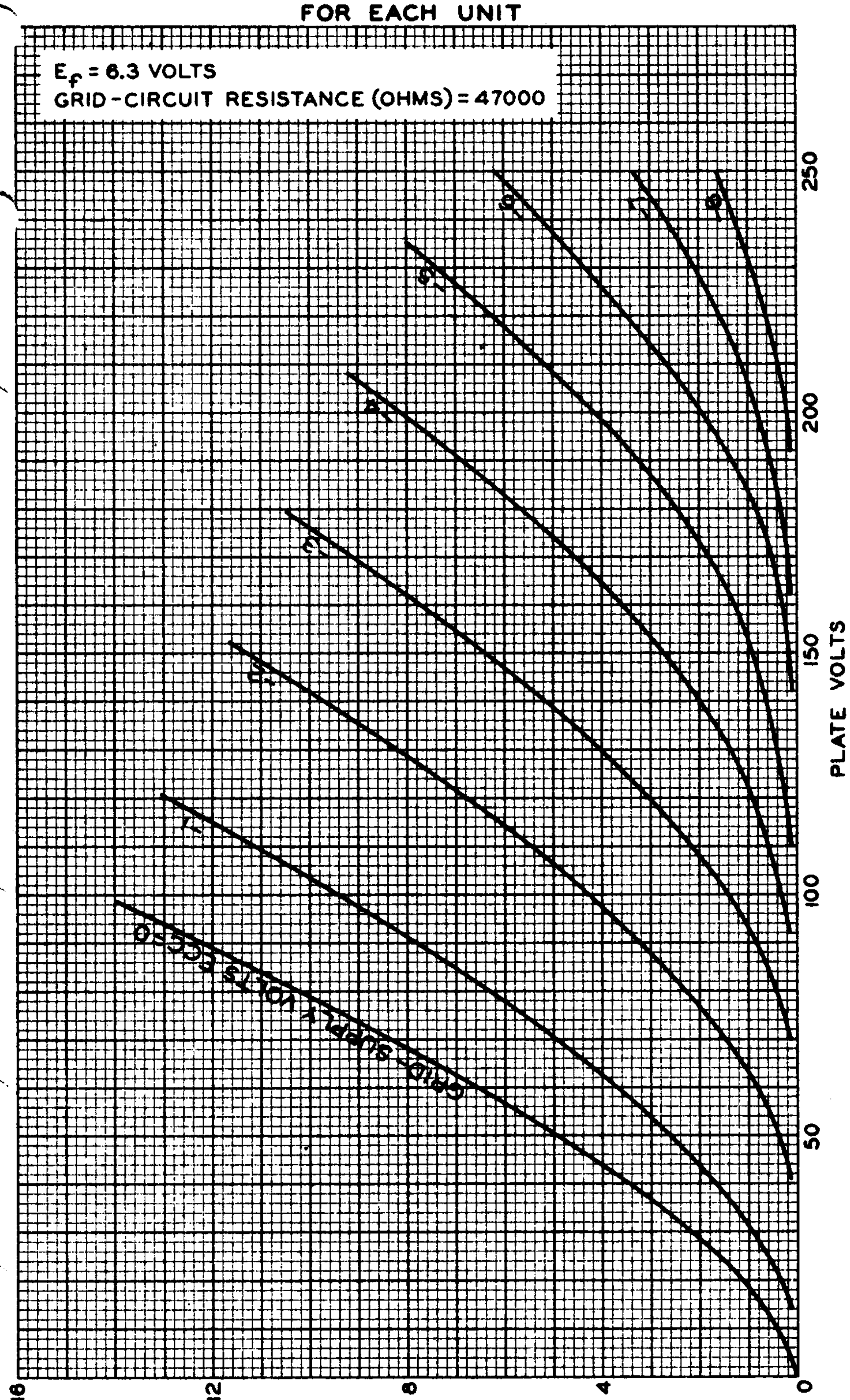
Note 2: Conditions are same as for Note 1 except that grid-supply volts = 0.

* With both units operating, the dc cathode current should not exceed 30 milliamperes, and the peak cathode current should not exceed 150 milliamperes.

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AVERAGE OPERATION CHARACTERISTICS
FOR EACH UNIT



MAY 31, 1950

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